

ABSTRACT OF THE DISCLOSURE

An electrical machine has a stator, a rotor, and radially extending coolant passageways provided in a laminated core section of at least the stator. The coolant passageways are defined between axially spaced stacks of laminations in the laminated core section. The radial passageways are connected to coolant supply ducts through a gap between the stator and the rotor. More efficient cooling of the machine is obtained by providing a matrix of coolant duct sections extending circumferentially and axially of the core section. The matrix has first and second radially spaced apart faces respectively in fluid communication with the radially extending coolant passageways in the laminated core section and coolant exhaust ducts. Some of the coolant duct sections communicate directly with the coolant exhaust ducts through the second face of the matrix and some or all of the adjacent coolant duct sections are in fluid communication with each other transverse of the radial direction to transfer coolant in a predetermined path within the coolant duct matrix.